ABSTRACT OF THE DISCLOSURE

An etching/cleaning apparatus is provided, which makes it possible to effectively remove an unnecessary material or materials existing on a semiconductor wafer without damaging the device area with good controllability. The apparatus comprises (a) a rotating means for holding a semiconductor wafer and for rotating the wafer in a horizontal plane; the wafer having a device area and a surface peripheral area on its surface; the surface peripheral area being located outside the device area; and (b) an edge nozzle for emitting an etching/cleaning liquid toward a surface peripheral area of the wafer. The etching/cleaning liquid emitted from the edge nozzle selectively removes an unnecessary material existing in the surface peripheral area. The etching/cleaning liquid emitted from the edge nozzle preferably has an emission direction oriented along a rotation direction of the wafer or outward with respect to a tangent of the wafer formed near a contact point of the liquid with the surface peripheral area of the wafer. A back nozzle may be additionally provided to emit an etching/cleaning liquid toward a back center of the wafer. A surface nozzle may be additionally provided to emit a protecting liquid toward a surface center of the wafer, covering the device area to protect the same against the etching/cleaning liquid.